

### **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A computer readable medium storing computer executable instructions configured to allow a user to set attributes of individual cells in a plurality of multi-dimensional arrays, comprising:

a) determining a value of a first attribute to be applied to the multi-dimensional array, the first attribute being associated with a first color channel;

b) determining a value of a second attribute to be applied to the multi-dimensional array, the second attribute being associated with a second color channel;

c) determining a value of a third attribute to be applied to the multi-dimensional array, the third attribute being associated with a third color channel;

d) receiving user input selecting a cell in a graphical depiction of any one the plurality of multi-dimensional arrays;

e) applying the values of the first, second, and third attributes to the selected cell; and

f) shading the selected cell a color based on the values of the first, second, and third attributes,

wherein the first, second and third attributes are used to define an aspect of a weather condition,

wherein the plurality of multi-dimensional arrays correspond to different layers above the earth, one multi-dimensional array being above another multi-dimensional array such that the user can define different weather conditions for cells in the plurality of multi-dimensional array each cell defining a specific area of space, and

wherein the first, second and third attributes are used together to define the aspect of the weather condition for each individual cell in the plurality of

multi-dimensional arrays such that the user can define different weather conditions for each individual cell in the plurality of multi-dimensional arrays.

2. (Previously Presented) The computer readable medium of claim 1, wherein the computer executable instructions further comprise repeating steps d) - f) for a plurality of user-selected cells in the graphical depiction of the multi-dimensional arrays.

3. (Previously Presented) The computer readable medium of claim 1, wherein the computer executable instructions further comprise:

g) receiving user input modifying at least one of the first, second, and third attributes;

h) receiving user input selecting a second cell in the graphical depiction of the multi-dimensional arrays;

i) applying the values of the first, second, and third attributes, as modified, to the second selected cell; and

j) shading the second selected cell a second color based on the values of the first, second, and third attributes, as modified.

4. (Previously Presented) The computer readable medium of claim 3, wherein the computer executable instructions further comprise repeating steps h) - j) for a plurality of user-selected cells in the graphical depiction of the multi-dimensional arrays.

5. (Original) The computer readable medium of claim 1, wherein step f) comprises:

i) determining a first color channel intensity based on the determined value of the first attribute;

- ii) determining a second color channel intensity based on the determined value of the second attribute;
- iii) determining a third color channel intensity based on the determined value of the third attribute; and
- iv) combining the color channel intensities to determine the shading color.

6. (Original) The computer readable medium of claim 5, wherein the first color channel is a red color channel, the second color channel is a green color channel, and the third color channel is a blue color channel.

7. (Currently Amended) A computer readable medium storing computer executable instructions configured to allow a user to set attributes of individual cells in a multi-dimensional array, comprising:

- a) determining a value of a first attribute to be applied to the multi-dimensional array, the first attribute being associated with a first color channel;
- b) determining a value of a second attribute to be applied to the multi-dimensional array, the second attribute being associated with a second color channel;
- c) determining a value of a third attribute to be applied to the multi-dimensional array, the third attribute being associated with a third color channel;
- d) receiving user input selecting a cell in a graphical depiction of the multi-dimensional array each cell defining a specific area of space;
- e) applying the values of the first, second, and third attributes to the selected cell; and
- f) shading the selected cell a color based on the values of the first,

second, and third attributes,

wherein step f) comprises:

i) determining a first color channel intensity based on the determined value of the first attribute;

ii) determining a second color channel intensity based on the determined value of the second attribute;

iii) determining a third color channel intensity based on the determined value of the third attribute; and

iv) combining the color channel intensities to determine the shading color, and

wherein:

step i) comprises:

A) determining a base-zero position of the determined value of the first attribute in a range of allowable values of the first attribute;

B) determining a first multiplier by dividing a maximum allowable first color channel intensity by a base-zero position of the maximum allowable value of the first attribute; and

C) determining the first color channel intensity by multiplying the first multiplier by the base-zero position of the determined value of the first attribute,

step ii) comprises:

A) determining a base-zero position of the determined value of the second attribute in a range of allowable values of the second attribute;

B) determining a second multiplier by dividing a maximum allowable second color channel intensity by a base zero position of the maximum allowable value of the second attribute; and

C) determining the second color channel intensity by multiplying the second multiplier by the base zero position of the determined value of the

second attribute, and

step iii) comprises:

A) determining a base-zero position of the determined value of the third attribute in a range of allowable values of the third attribute;

B) determining a third multiplier by dividing a maximum allowable third color channel intensity by a base zero position of the maximum allowable value of the third attribute; and

C) determining the third color channel intensity by multiplying the third multiplier by the base zero position of the determined value of the third attribute, and

wherein the first, second and third attributes are used to define an aspect of a weather condition for each individual cell in a plurality of multi-dimensional arrays in which one multi-dimensional array is above another multi-dimensional array such that the user can define different weather conditions for each individual cell in the plurality of multi-dimensional arrays.

8-9. (Canceled)

10. (Previously Presented) The computer readable medium of claim 1, wherein the graphical depiction of each multi-dimensional array comprises a two-dimensional array displayed on a display device.

11. (Previously Presented) The computer readable medium of claim 1, wherein the computer executable instructions further comprise exporting the multi-dimensional arrays in a data format usable by a computer game to simulate the weather conditions.

12. (Canceled).

13. (Original) The computer readable medium of claim 10, wherein each cell of the two-dimensional array corresponds to a geographical area.

14. (Original) The computer readable medium of claim 13, wherein the geographical area to which each cell of the two dimensional array correspond is of a same size.

15. (Original) The computer readable medium of claim 5, wherein the each color channel intensity gets darker as the determined value of the color channel's corresponding attribute gets more severe.

16. (Currently Amended) A computer readable medium storing computer executable instructions configured to allow a user to set attributes of individual cells in a plurality of multi-dimensional arrays, comprising:

- a) determining a value for each of a plurality of attributes that can be applied to the multi-dimensional arrays;
- b) determining a state of a flag corresponding to each of the plurality of attributes, wherein the flag indicates whether or not the corresponding attribute should be applied to the multi-dimensional arrays;
- c) receiving user input selecting a cell in a graphical depiction of any one of the multi-dimensional arrays;
- d) applying to the selected cell the values of each of the plurality of attributes whose flag indicates that the corresponding attribute should be applied to the multi-dimensional arrays; and
- e) providing visual feedback that the flagged attribute(s) have been applied to the selected cell,

wherein the plurality of attributes define an aspect of a weather

condition,

wherein the plurality of multi-dimensional arrays correspond to different layers above the earth, one multi-dimensional array being above another multi-dimensional array such that the user can define different weather conditions for cells in the multi-dimensional arrays each cell defining a specific area of space, and

wherein the plurality of attributes are used to define the aspect of the weather condition for each individual cell in the plurality of multi-dimensional arrays such that the user can define different weather conditions for each individual cell in the plurality of multi-dimensional arrays.

17. (Original) The computer readable medium of claim 16, wherein step e) comprises shading the selected cell.

18. (Canceled).

19. (Previously Presented) The computer readable medium of claim 16, wherein the computer executable instructions further comprise exporting the multi-dimensional arrays in a data format usable by a computer game to simulate the weather conditions.

20. (Original) The computer readable medium of claim 17, wherein step e) comprises shading the selected cell a color based on the values of three of the plurality of attributes.

21. (Original) The computer readable medium of claim 20, wherein step e) comprises:

i) determining a first color channel intensity based on the value of a

first attribute;

ii) determining a second color channel intensity based on the value of a second attribute;

iii) determining a third color channel intensity based on the value of a third attribute; and

iv) combining the color channel intensities to determine the shading color.

22. (Original) The computer readable medium of claim 21, wherein the first color channel is a red color channel, the second color channel is a green color channel, and the third color channel is a blue color channel.

23. (Currently Amended) A computer readable medium storing computer executable instructions configured to allow a user to set attributes of individual cells in a multi-dimensional array, comprising:

a) determining a value for each of a plurality of attributes that can be applied to the multi-dimensional array;

b) determining a state of a flag corresponding to each of the plurality of attributes, wherein the flag indicates whether or not the corresponding attribute should be applied to the multi-dimensional array;

c) receiving user input selecting a cell in a graphical depiction of the multi-dimensional array each cell defining a specific area of space;

d) applying to the selected cell the values of each of the plurality of attributes whose flag indicates that the corresponding attribute should be applied to the multi-dimensional array; and

e) providing visual feedback that the flagged attribute(s) have been applied to the selected cell,

wherein step e) comprises:



shading the selected cell;

determining a first color channel intensity based on the value of a first attribute;

determining a second color channel intensity based on the value of a second attribute;

determining a third color channel intensity based on the value of a third attribute; and

combining the color channel intensities to determine a shading color; and

shading the selected cell with the shading color,

wherein the first color channel is a red color channel, the second color channel is a green color channel, and the third color channel is a blue color channel, and

wherein:

step i) comprises:

A) determining a base-zero position of the determined value of the first attribute in a range of allowable values of the first attribute;

B) determining a first multiplier by dividing a maximum allowable first color channel intensity by a base zero position of the maximum allowable value of the first attribute; and

C) determining the first color channel intensity by multiplying the first multiplier by the base zero position of the determined value of the first attribute,

step ii) comprises:

A) determining a base-zero position of the determined value of the second attribute in a range of allowable values of the second attribute;

B) determining a second multiplier by dividing a maximum allowable second color channel intensity by a base zero position of the maximum

allowable value of the second attribute; and

C) determining the second color channel intensity by multiplying the second multiplier by the base zero position of the determined value of the second attribute, and

step iii) comprises:

A) determining a base-zero position of the determined value of the third attribute in a range of allowable values of the third attribute;

B) determining a third multiplier by dividing a maximum allowable third color channel intensity by a base zero position of the maximum allowable value of the third attribute; and

C) determining the third color channel intensity by multiplying the third multiplier by the base zero position of the determined value of the third attribute, and

wherein the plurality of attributes are used together to define an aspect of the weather condition for each individual cell in a plurality of multi-dimensional arrays in which one multi-dimensional array is above another multi-dimensional array such that the user can define different weather conditions for each individual cell in the plurality of multi-dimensional arrays.

24. (Original) The computer readable medium of claim 20, wherein the computer executable instructions further comprise receiving user input identifying one or more of the three attributes of the plurality of attributes.

25. (Original) The computer readable medium of claim 22, wherein the computer executable instructions further comprise receiving user input identifying which of the three attributes corresponds to each of the red, green, and blue color channels.

26. (Previously Presented) The computer readable medium of claim 16, wherein step e) comprises shading the selected cell darker as more attributes' flags indicate that the attributes should be applied to the multi-dimensional arrays.

27. (Currently Amended) A computer-readable medium storing computer executable instructions that, when executed, display a user interface on a computer display device, said user interface comprising:

a first interface component displaying a list of attributes corresponding to a user-selected attribute layer, wherein the user can specify an attribute value corresponding to each attribute in the list; and

a second interface component displaying a plurality of two-dimensional grids representative of a location-neutral geographical area wherein, when the user selects a cell within any one of the plurality of two-dimensional grids, the user interface shades the selected cell based on the current values of a plurality of attributes in the list of attributes corresponding to the user-selected attribute layer,

wherein the plurality of attributes define an aspect of a weather condition,

wherein the plurality of two-dimensional grids correspond to different layers above the earth, one dimensional grid being above another dimensional grid such that the user can define different weather condition for cells in the plurality of two-dimensional grids each cell defining a specific area of space, and

wherein the plurality of attributes are used together to define the aspect of the weather condition for each individual cell in the plurality of two-dimensional grids such that the user can define different weather conditions for each individual cell in the plurality of two-dimensional grids.

28-31. (Canceled).

32. (Original) The computer readable medium of claim 27, wherein the user-interface shades the selected cell based on a first color channel having a first color channel intensity based on a first attribute, a second color channel having a second color channel intensity based on a second attribute, and a third color channel having a third color channel intensity based on a third attribute.

33. (Original) The computer readable medium of claim 32, wherein the first color channel is a red color channel, the second color channel is a blue color channel, and the third color channel is a green color channel.

34-40. (Canceled)

41. (Currently Amended) A computer system, comprising:  
a memory configured to store data;  
a display configured to display information;  
a controller configured to load from the memory a plurality of multi-dimensional arrays, each multi-dimensional array including a plurality of individual cells, and to display on the display the loaded plurality of multi-dimensional arrays;

an input unit configured to receive a value of a first weather attribute to be applied to any one of the plurality of multi-dimensional arrays, the first weather attribute being associated with a first color channel, a value of a second weather attribute to be applied to said any one of the plurality of multi-dimensional arrays, the second weather attribute being associated with a

second color channel, a value of a third weather attribute to be applied to the said any of the multi-dimensional arrays, the third weather attribute being associated with a third color channel, and user input selecting a cell in said any one of the multi-dimensional arrays,

wherein the controller applies the values of the first, second, and third attributes to the selected cell, and shades the selected cell a color based on the values of the first, second, and third attributes,

wherein the plurality of multi-dimensional arrays correspond to different layers above the earth, one multi-dimensional array being above another multi-dimensional array such that the user input can define different weather conditions for cells in the plurality of multi-dimensional arrays each cell defining a specific area of space, and

wherein the first, second and third attributes are used to define the aspect of the weather condition for each individual cell in the plurality of multi-dimensional arrays such that the user can define different weather conditions for each individual cell in the plurality of multi-dimensional arrays.

42. (Previously Presented) The computer system of claim 41, wherein the user input unit further includes a selection unit configured to select a model of an aircraft to be flown through the plurality of multi-dimensional arrays.

43. (Previously Presented) The computer system of claim 42, wherein the plurality of multi-dimensional arrays remain static such that the user can fly the aircraft through the plurality of multi-dimensional arrays and experience different weather conditions defined in the individual cells of the plurality of multi-dimensional arrays.

44. (Previously Presented) The computer system of claim 41, wherein the first, second and third weather attributes include any one of a cloud type, surface conditions, temperature, visibility characteristics and wind characteristics.